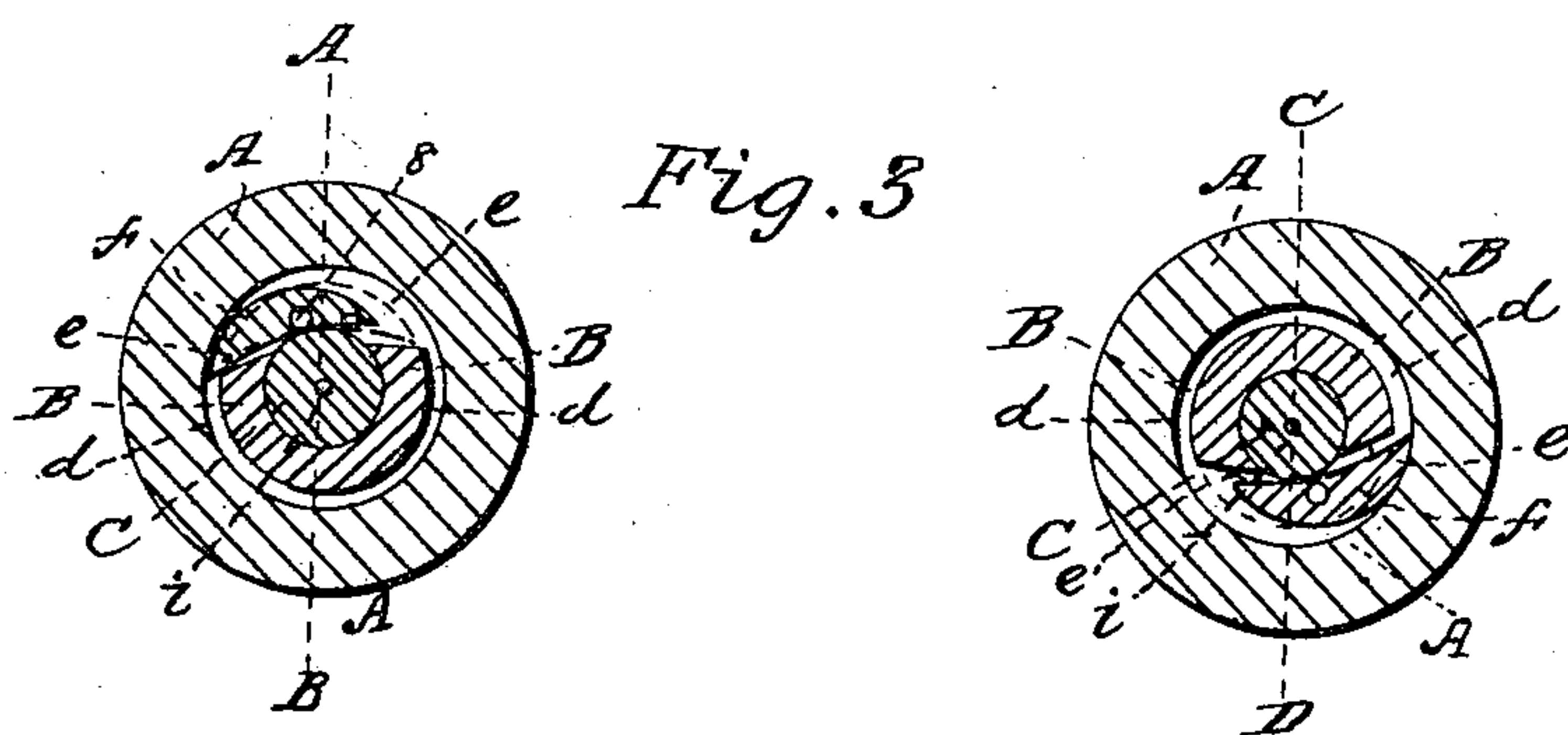
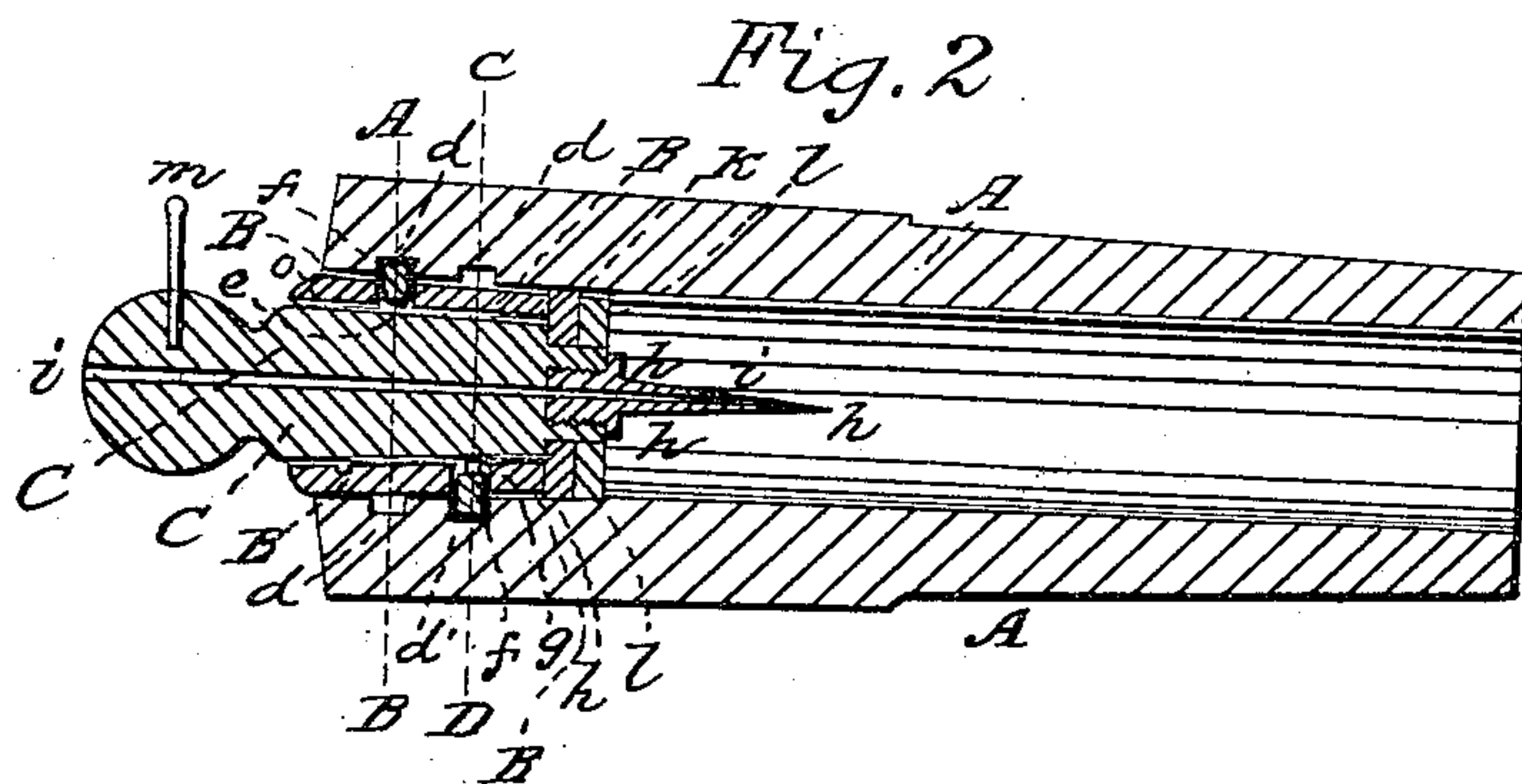
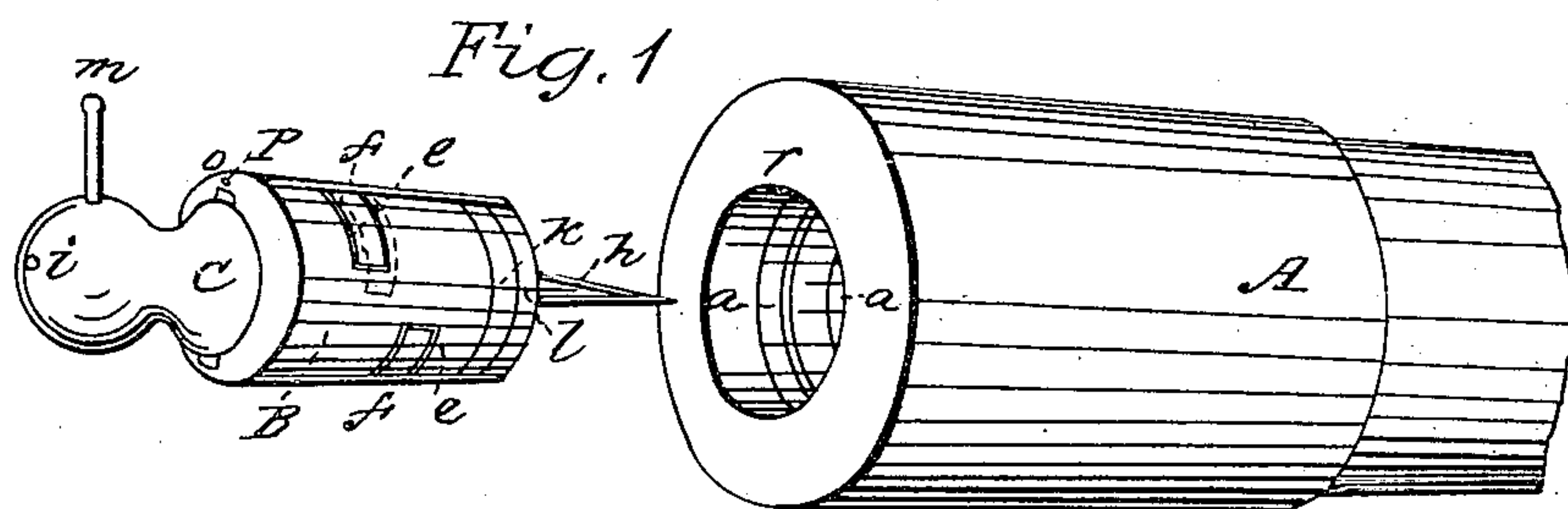


A. F. POTTER.
Breech-Loading Ordnance.

No. 103,078.

Patented May 17, 1870.



Witnesses:
Sam. L. Cutter Jr.
D. H. Whittemore

Inventor:
A. Father Fals Potter.

United States Patent Office.

ABIATHER FALES POTTER, OF SAN FRANCISCO, CALIFORNIA.

Letters Patent No. 103,078, dated May 17, 1870.

IMPROVEMENT IN BREECH-LOADING ORDNANCE.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, ABIATHER FALES POTTER, of San Francisco city and county, and State of California, have invented a new and useful Improvement in Breech-loading Artillery; and I do hereby declare that the following is a full and exact description thereof.

The nature or essence of my invention consists in a certain combination and arrangement, (fully described below,) of cams and keys operated by a central pin, for securing a breech-core in a gun.

I construct my gun in three general parts.

The barrel A, the breech-core, as I have named it, B, and what I call the key-pin C, which, when put together, all concenter around a common longitudinal axis.

The barrel A is open through its entire length, and, for a distance equal to the length of the breech-core B, its bore is slightly flaring outward.

Around the inside of the barrel A, and near its breech end, are cut grooves, channels, or slots, *d*, very nearly or quite at right angles to the longitudinal axis of the barrel A.

These slots, grooves, or channels *d*, are intended to receive keys, *f*, which fasten the breech-core B in its place.

The breech-core B is, in its general outline, a hollow truncated cone, of an external caliper measure and length to fit closely into the barrel of the gun at its breech or rear end.

In the outer surface of the breech-core, and at right angles to its longitudinal axis, are cut eccentric channels or grooves, *e e*, in which play the keys *f* which fasten the breech-core in position.

These grooves or channels *e*, communicate with the open center of the breech-core B. They are so placed in the breech-core as to correspond accurately, when the breech-core is in place, with the channels or grooves *d* in the barrel of the gun.

In the channels *e* are placed eccentric keys *f* of an irregular concavo-convex shape, of such shape and size that, when set down "home" in their places in the breech-core, their outward or convex surface will be flush or nearly flush with the exterior surface of the breech core, so that the breech-core may be taken out of, or put into its place in the barrel freely.

These keys *f* play easily in the grooves or channels, *e*, both in the direction of their own length, and in and out, from and toward the center of the breech-core. They are carried by a rolling joint on teeth or cams *g*, set on the outside of the key-pin C, and in such a way that when carried to one side by these teeth or cams *g*, they (the keys) lie flush with the surface of the breech-core, so that it may be removed from, or put into the barrel A freely, and,

when carried to the other side by a contrary revolution of the key-pin, they are forced eccentrically outward and partly into the grooves *d* in the barrel A, thereby locking the breech-core firmly into its place.

The end of the breech-core is faced with a circular elastic packing, *k*, and a steel face-ring outside of the packing, which take a part of the shock of the discharge of the gun, and also, by the elasticity of the packing, cover the interstices between the face of the breech-core and the inside of the barrel.

The key-pin C is also, in its general outline, a truncated cone, fitting accurately into the inside of the breech-core, and bearing on its outside the teeth or cams *g*, which play through openings in the breech-core B, and carry the eccentric keys *f*. It carries a ring of steam-tight packing near its front end. It also has a lever-handle or a wheel *m* on its rear end, by which it may be turned on its longitudinal axis to lock, or open the breech of the gun.

The vent-hole or touch-hole of the gun *i i*, passes along the longitudinal axis of this key-pin C. Into the forward end of the key-pin C is screwed a hollow tube or needle, *h*, with a cutting-point, which tube acts, first, as a pricker to prick the cartridge, and secondly, with its hollow interior, which is a continuation of the vent-hole through the key-pin, to carry fire to the front, the middle, or the rear part of the charge of powder, according as this pricking and firing-tube *h* is longer or shorter; for, as the tube *h* is detachable, a longer or shorter one may be applied, as required.

The teeth or cams *g* are made larger at their tips than at their bases, and the chambers in the keys *f* in which the teeth play are made smaller at their mouths on the surface of the keys than inside, whereby the teeth *g* hold the keys *f* in their places, and prevent their falling out. The teeth *g* pass into their places in the keys through longitudinal grooves or channels in the inner surface of the breech-core B, which are then filled with a plug, if desirable, and the key-pin is held in its place by a spring, a catch, or screw at *o*, acting either directly against the key-pin, or upon the plug which closes and fills the channels through which the teeth or cams *g* pass to their position when putting the breech-core and key-pin together.

The breech-core is guided into its proper position in the barrel, and the key-pin into its proper position in the breech-core, by a guiding-tooth or cam *p*, running into a groove or socket, *r*.

The breech-core is locked into position by throwing the lever *m* to the right or left, as the case may be, whereby the keys *f* are carried, by the motion of the cams *g*, partly out of the channels *e* and into the

grooves *d*, thus keying the breech-core into its place, when the gun is to be closed or fired; it is released, so that the gun may be opened for loading or cleaning, by reversing the motion of the same lever *m*, which retracts the keys *f* into the breech-core by the reversed action of the cams *g*.

What I claim as my invention, and desire to secure by Letters Patent, is—

In combination with the core *A*, and pin, *C*, the arrangement of the slots or recesses *d* and *e*, the keys *f*, and the cams or projections *g*, substantially as and for the purposes set forth.

ABIATHER FALES POTTER.

Witnesses:

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D. H. WHITEMORE.